# Section 3. PROJECT DESCRIPTION FOR SCOPING

## 3.1 Project Location, Area, ECA category (if applicable)

The proposed seabed quarry comprises an area of approximately 4999 hectares offshore of Ternate and Naic, Province of Cavite, shown in **Figure PD-1.**

The geographic coordinates of Project Area in WGS 84 is provided in **Table 3-1.**

***Table 3-1. Geographical Coordinates of the Site (In WGS 84)***

| Point | WGS 84 | |
|---|---|---|
| | Longitude | Latitude |
| 1 | 120°36'35.007" | 14°17'14.692" |
| 2 | 120°36'35.115" | 14°17'24.689" |
| 3 | 120°36'5.127" | 14°17'24.689" |
| 4 | 120°36'5.128" | 14°17'54.686" |
| 5 | 120°37'5.14" | 14°19'54.677" |
| 6 | 120°39'35.117" | 14°21'54.671" |
| 7 | 120°39'35.117" | 14°20'54.673" |
| 8 | 120°41'5.117" | 14°20'54.673" |
| 9 | 120°41'4.973" | 14°21'24.673" |
| 10 | 120°41'43.709" | 14°21'24.673" |
| 11 | 120°41'43.745" | 14°20'57.448" |
| 12 | 120°43'34.337" | 14°20'57.58" |
| 13 | 120°44'46.157" | 14°20'50.582" |
| 14 | 120°43'5.14" | 14°19'28.367" |
| 15 | 120°38'26.14" | 14°19'28.369" |
| 16 | 120°38'15.124" | 14°19'14.679" |
| 17 | 120°38'26.464" | 14°19'4.762" |
| 18 | 120°38'35.14" | 14°18'54.682" |
| 19 | 120°38'46.264" | 14°18'39.682" |
| 20 | 120°38'47.2" | 14°18'24.682" |
| 21 | 120°38'47.2" | 14°18'9.034" |
| 22 | 120°38'36.94" | 14°17'54.685" |
| 23 | 120°38'26.643" | 14°17'40.686" |
| 24 | 120°38'22.755" | 14°17'40.308" |
| 25 | 120°37'32.355" | 14°17'9.688" |
| 26 | 120°37'5.139" | 14°17'9.688" |


*Figure 3-1.* ***The Project Location in a Google Earth Map***

The succeeding maps hereunder provided further show the project/site location.

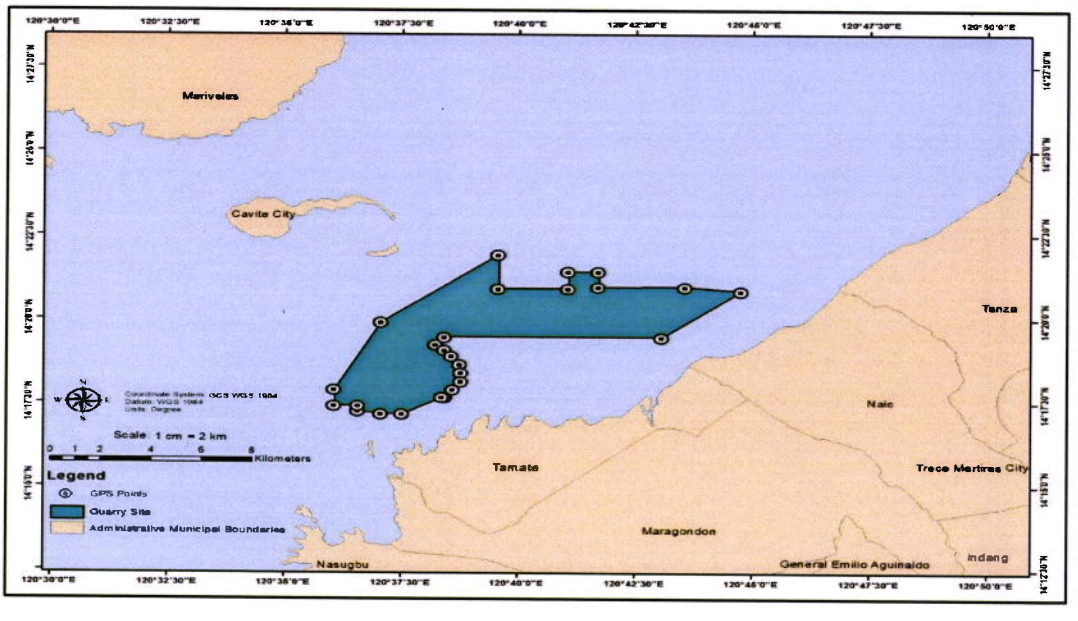



*Figure 3-2.* ***The Project Site Relative to the Adjacent Municipalities/Cities***

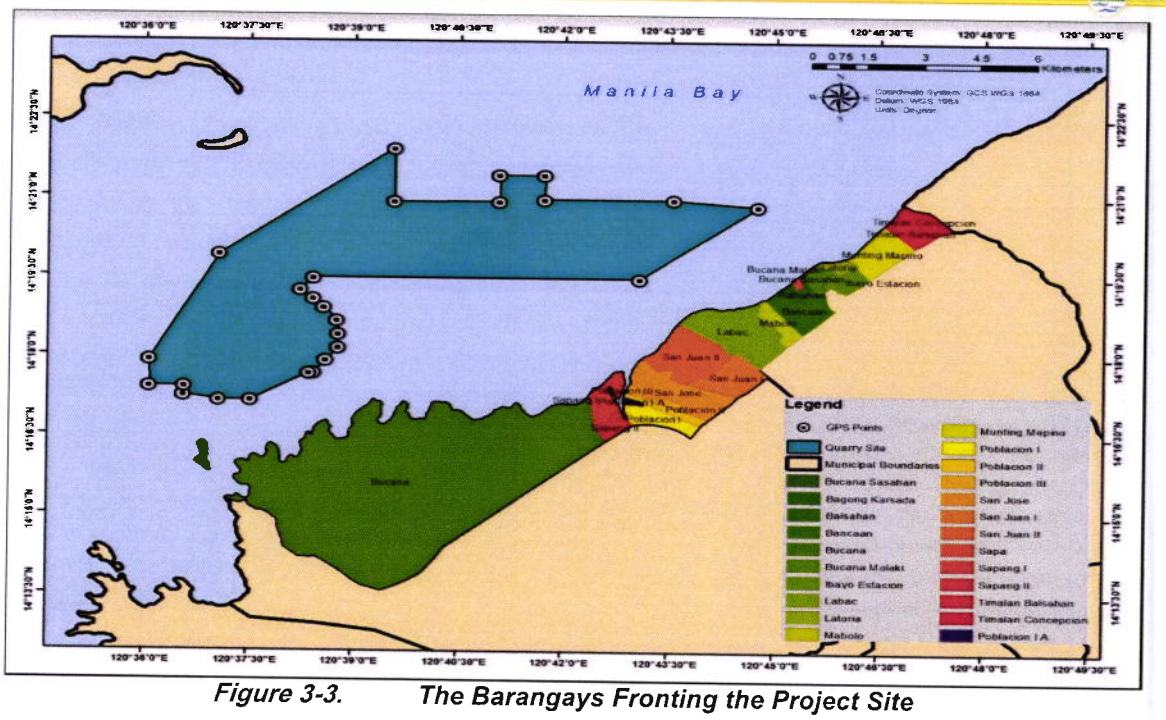



*Figure 3-3.* **The Barangays Fronting the Project Site**

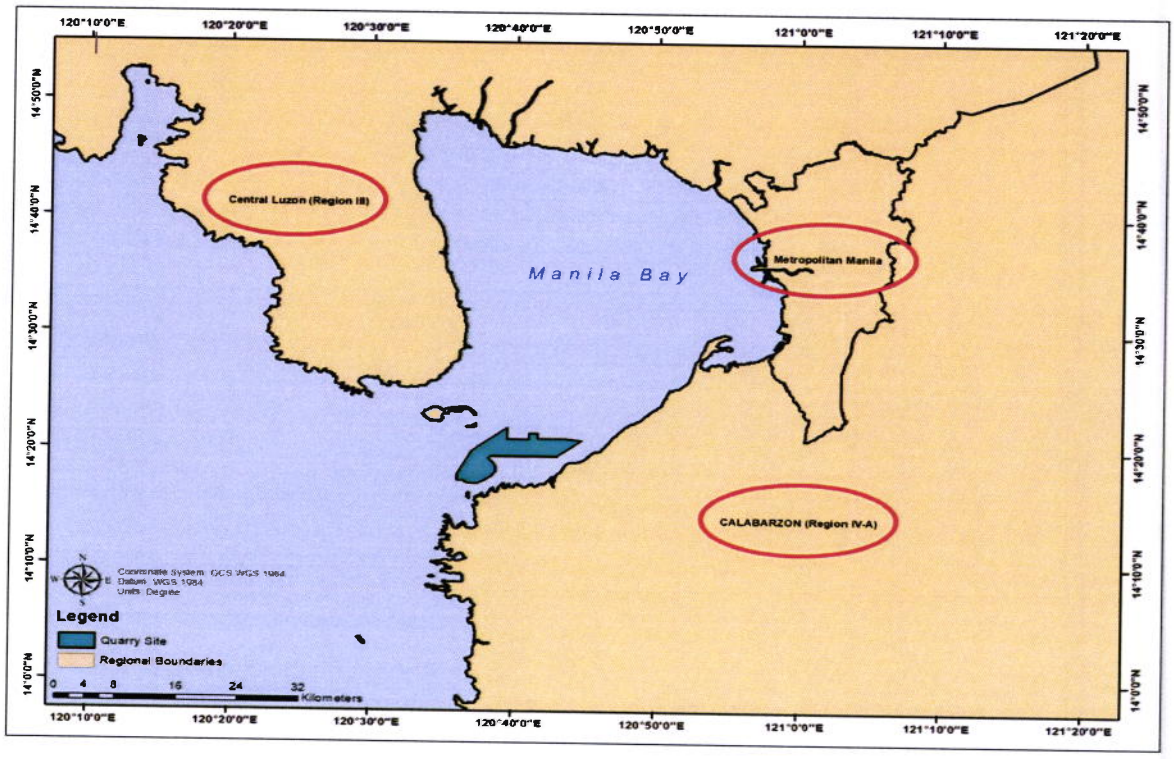



*Figure 3-4.* **The Regional Boundaries of the Project Site**

### 3.1.1 Accessibility and Vicinities

This refers to accessibility by land, sea and air travels and not to accessibility of the dredging ships. In case of the latter accessibility is by sea. Accessibility to project site from the land is not relevant and hence there are no planned bridges nor viaducts from onshore.

The dredging ship will travel to the quarry site (location as described above) coming from the origin pier/jetty or nearby port of Manila, undertake dredging activities, extracts and carries the extracted sand to the designated reclamation project, which location is in City of Manila approximately 42 kilometers away.

The vicinity map is given in **Figure 3-5.**


***Figure 3-5. The Vicinity Map***

### 3.1.2 Environmental Critical Area (ECA)

This is deemed as being not applicable to the Project. The nearest E NIPAS area is the Las Piñas-Parañaque Critical Habitat Area (LPPCHEA) distantly located 57.2 km away shown below.


*Figure 3-6.* ***The Project Site Relative to the LPPCHEA***

## 3.2 Project Rationale

The rationale for the project is viewed in a holistic perspective of Manila Bay which without doubt is a prime gateway for socio-economic development of the Philippines and the country's most significant sea in terms of economy.

In this context, this planned seabed quarry project of Seabed Resources, Inc. will be very important in supporting the Manila City Government's intention to reclaim and develop areas that will allow the city government with much needed and additional spaces for businesses, government facilities and increase economic destination. Manila has few alternatives to meet such increasing requirements to accommodate and satisfy the demand for rapid commercial and residential growth. One of these is the creation of more lands along its coastal areas through reclamation developments along the coastal areas of Manila Bay. It is imperative that the source of reclamation/fill materials must be nearby (for economy) but should not contribute to the increase in pollution of the Bay. Thus, the option to obtain the dredged materials from the offshore area of Ternate and Naic in Cavite was considered and finally chosen as best alternative to supply the needs for the reclamation project in the City of Manila.

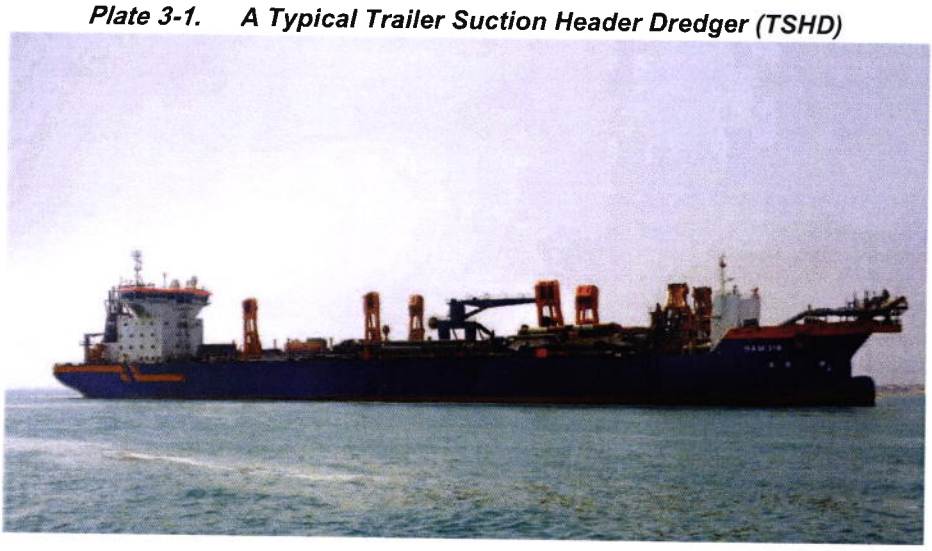
The Proposed Quarry Project will be providing landfill materials to the biggest and first reclamation project of the City of Manila, the **419-Hectare Horizon Manila Reclamation Project** which is envisioned to be a sprawling development that will showcase a "better Manila," with lots of parks and open spaces, targeting to break ground in the second quarter of next year that will generate around 400, 000 jobs which will help increased revenues that will enable the city government to improve the delivery of government services. ***By providing the basic raw material for this reclamation project the sea bed quarry will be ultimately supportive of the "Build-Build-Build" programme and vision of the Philippine government.***

## 3.3 Project Development Plan, Process/Technology and Project Components

### 3.3.1 Process Technology

In respect of **"Process"** in the context of the PEISS as embodied in the Revised Procedural Manual, this is deemed to refer to the dredging methodology and technology thereby involved.
**The main equipment/vessel that would be employed for the project is a Trailer Suction Header Dredger (TSHD) hereunder described. (*Source: Van Oord Method Statement Nov. 2018*)**

***Plate 3-1. A Typical Trailer Suction Header Dredger (TSHD)***



**A brief description of the TSHD and the dredging operations.**

- A TSHD is a self-propelled vessel, equipped with a hold (hopper) into which the dredged material is pumped and stored and the means to load the dredged materials at the project site and unload at the site of a reclamation project.

- One or more suction pipes with suction mouths, called drag heads, that are dragged over the seabed while dredging;

- One or more centrifugal dredge pumps to transport the material through the suction pipe;
- Bottom doors or valves in the hold to unload the material;
- Suction pipe gantries to hoist the suction pipes on board;
- A swell compensator, which compensates for the vertical movement of the ship in relation to the sea-bed and keeps the drag head on the sea bottom

The work principle of a TSHD can be summarized in the following steps:

1. Lowering suction pipe;
2. Dredging until overflow is reached (trailing);
3. Raising suction pipe;
4. Sailing to discharge area, i.e., the reclamation site at which the dredged materials will be used as land

Fill;
5. Opening bottom doors;
6. Discharging hopper load;
7. Closing bottom doors;
8. Sailing back to dredging area.

**The above discussions are generic in nature. The actual dredging operations and vessel to be used will depend on the specific dredging Contractor that will be engaged for the Project.**

### 3.3.2 Project Components

By the nature of the Project which will not involve the construction of structures and will only comprise of dredging works, and taking note of the foregoing discussions on Methodology it is deemed that there are no project components associated with the Project.

## 3.4 Description of Project Phases (Activities/Environmental Aspects, Associated Wastes, and Built-in Pollution Control Measures)

### 3.4.1 Pre-construction/ Pre-operational phase

### 3.4.2 Construction/Development Phase

In the absence of construction works such as the building of channels, structures and similar facilities Items 3.4.1 and 3.4.2 are deemed not germane.

### 3.4.3 Operational phase

**This pertains to the dredging activity as described in 3.3.1 "Process Technology"**

### 3.4.4 Abandonment phase

Upon completion of the dredging works the project would be considered as completed. The dredging activities will be undertaken in phases, i.e. in parcels of the sea and not a one-time operation for the entire 5 000 hectare area.

#### *Air Pollution Control*

**Air Pollution Source Equipment (APSE) and Air Pollution Control Device (APCD)-** The Air Pollution Source Equipment (APSE) will be onboard the moving sea crafts and thus the Environmentally Sensitive Receptors (ESRs) will be distant from the source of air discharges. The sea crafts will be using internationally-accepted fossil-fuel driven equipment and will have their individual smoke stacks.

The Air Pollution abatemen system will be in accordance with the international maritime protocol such as the **MARPOL 73/78** and applicable Sections of the Philippine Clear Air Act, R.A. 8749.

- Increased engine technologies and efficiencies
- Reduction of $NO_x$ includes introducing water into the combustion process, use of $NO_x$ absorbers, and selective catalytic reduction.
- PM control technologies include particulate traps and exhaust scrubbers
- $SO_x$ reduction is mainly achieved by the use of low Sulfur in the fuel

Unlike other environmental resources such as marine, the air environment is not significantly impacted on by the dredging works because:

- The Environmentally Sensitive Receptors are distant from the source of pollution which are at the vessels on sea.
- The source is mobile thus the discharges are dispersed more widely.
- The air pollution source will operate for only a short time period and also will be interment in operation.

## 3.5 Manpower Requirements

**The manpower is limited to the crew at the dredging vessel and is small in number. The requirement is based on the vessel needs shown in Table 3-2, hereunder.**

***Table 3-2. Estimated Manpower Requirements for the Project***

| POSITION | Expertise/skills needed for the dredging/reclamation vessels |
|---|---|
| Captain | Navigation, Emergency treatment, Management, Dredging and reclamation quality control skill. Environment protection, Communication, Construction layout understanding, legal knowledge, training. |
| Chief mate | Navigation, Emergency treatment, Management, Dredging and reclamation quality control skill. Environment protection, Communication, Construction layout understanding, legal knowledge, training. |
| Second mate | Navigation, Emergency treatment, Dredging and reclamation quality control skills. Environment protection, Communication. |
| Third mate | Navigation, Dredging and reclamation quality control skills. Environment protection. |
| Sailor | Navigation, Dredging and reclamation quality control skills. Environment protection. |
| Chief mechanical engineer | Equipment maintains, Emergency treatment, Management, Equipment near miss identification, Material and spares procurement, Environment protection, Communication, training. |
| Second mechanical engineer | Equipment maintains, Emergency treatment, equipment near miss identification, Material and spares procurement, Environment protection. |

| POSITION | Expertise/skills needed for the dredging/reclamation vessels |
|---|---|
| Third mechanical engineer | Equipment maintains, equipment near miss identification, Environment protection. |
| Mechanic | Equipment maintains. |

## 3.6 Project Cost

As an initial estimate subject to finalization, the total cost of the Project is placed at **Php 5,400,000.00**

## 3.7 Project Duration and Schedule

The project duration and schedule will be dictated by the type of dredging vessel and capacity. This is because the dredging time, travel from the quarry site to the reclamation project which will use the dredged materials and back to the sea are all dependent on (a) rate of dredging (b) volume of vessel hopper (c) sailing speed (d) time to discharge the dredged fill materials to the reclamation site and navigational factors such as weather and wind condition

As an initial estimate only the project duration could be from 3-12 months. Contingencies are made for potential restrictions due to the Pandemic.

**Potential Conflicts with Employment, Basic Services and Infrastructures**

The employment requirement for the project is for the activities at the vessel and none on shore and is shown in the table below:

| POSITION | Expertise/skills needed for the dredging/reclamation vessels |
|---|---|
| Captain | Navigation, Emergency treatment, Management, Dredging and reclamation quality control skill. Environment protection, Communication, Construction layout understanding, legal knowledge, training. |
| Chief mate | Navigation, Emergency treatment, Management, Dredging and reclamation quality control skill. Environment protection, Communication, Construction layout understanding, legal knowledge, training. |
| Second mate | Navigation, Emergency treatment, Dredging and reclamation quality control skills. Environment protection, Communication. |
| Third mate | Navigation, Dredging and reclamation quality control skills. Environment protection. |
| Sailor | Navigation, Dredging and reclamation quality control skills. Environment protection. |
| Chief mechanical engineer | Equipment maintains, Emergency treatment, Management, Equipment near miss identification, Material and spares procurement, Environment protection, Communication, training. |
| Second mechanical engineer | Equipment maintains, Emergency treatment, equipment near miss identification, Material and spares procurement, Environment protection. |
| Third mechanical engineer | Equipment maintains, equipment near miss identification, Environment protection. |
| Mechanic | Equipment maintains. |

As may be noted from the above the required workers are of specialized skills and necessarily acceptable to the dredging contractor in order for the latter to ensure full compliance with all navigational and environmental regulations **and norms. If all, only a very few casual workers from the community/ies may be needed.**

**On Livelihood**

The project does not open opportunities for major livelihoods. If food supply may be needed at the dredging vessel it will not be practical to have the supplier based on shore to deliver the same to the vessel noting there are no access ways. Food and other requirements such as water and personal needs are normally brought in the vessel from other sources.

There will be therefore no competition with the communities in respect of employment and livelihood.

**On Water**

The vessels will have its own supply of water and therefore demands will not compete with the water needs of the communities.

**On Communication Facilities**

The vessels will have its own facilities principally radios and mobile cellular phones.

**On Power Supply**

This is essentially absent considering the above cited aspects are confined at the vessels and no requirements are needed from on shore or from the communities.

**Potential Adverse Perception of the Communities**

With or without the project flooding is a common concern of coastal communities. These are not relevant to the Project because (a) There are no structures to be built that could divert current flows (b) Drainage systems are distant and not affected (c) Rivers that could inundate are also distant.

**Figure 5** further shows the flood hazard map indicating therein the flooding hazard areas are in fact distant from the project.

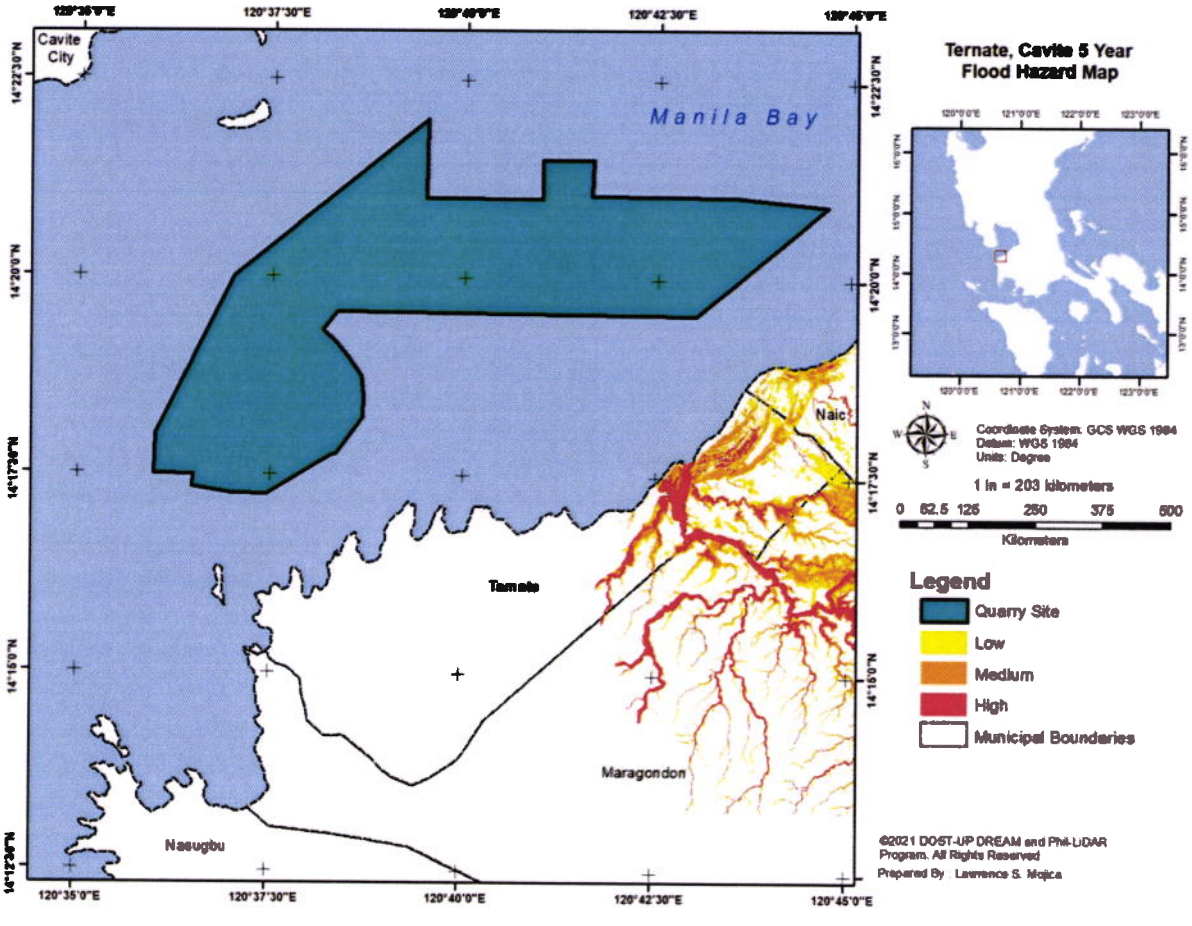



**Figure 5 The Flood Hazard Map of Areas Fronting the Project Site**